

THE AMERICAN GENERA OF ASILIDAE (DIPTERA): KEYS FOR IDENTIFICATION WITH AN ATLAS OF FEMALE SPERMATHECAE AND OTHER MORPHOLOGICAL DETAILS. IX.3. SUBFAMILY ASILINAE LEACH -*EICHOICHEMUS*-GROUP, WITH THE PROPOSAL OF TWO NEW GENERA AND A CATALOGUE OF THE NEOTROPICAL SPECIES¹

LOS GENEROS AMERICANOS DE ASILIDAE (DIPTERA): CLAVES PARA SU IDENTIFICACION CON UN ATLAS DE LAS ESPERMATECAS DE LAS HEMBRAS Y OTROS DETALLES MORFOLOGICOS. IX.3. SUBFAMILIA ASILINAE LEACH -GRUPO-EICHOICHEMUS, CON LA PROPOSICION DE DOS GENEROS NUEVOS Y UN CATALOGO DE LAS ESPECIES NEOTROPICALES¹

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ABSTRACT

The *Eichoichemus*-group of Asilinae (Asilidae) includes 3 genera: *Eichoichemus* Bigot, 1857; *Proctophoroides*, gen. n. (type-species, *Erax hyalipennis* Macquart) and *Wygodasilus*, gen. n. (type-species, *Erax pulchripes* Bromley). A key to those genera and a catalogue of the neotropical species are given, as well as illustrations of the male and female terminalia and the spermathecae of *Eichoichemus*.

KEYWORDS: America. Neotropic. Asilidae. *Proctophoroides*. *Eichoichemus*. *Wygodasilus*. Taxonomy. Catalogue.

INTRODUCTION

This is the part IX.3 of a serie of papers intended as a preliminary effort to define the American genera of Asilidae, describing the new genera, preparatory to the elaboration of a catalogue of Neotropical species for inclusion in the forthcoming World Catalogue of Flies, now

¹This research was supported by the Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP, Grants 85/1772-5, 86/2227-1, 87/3170-8 and 94/2344-6).

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RESUMEN

El grupo-*Eichoichemus* de Asilinae (Asilidae) incluye 3 géneros: *Eichoichemus* Bigot, 1857; *Proctophoroides*, gen. n. (especie-tipo, *Erax hyalipennis* Macquart) y *Wygodasilus*, gen. n. (especie-tipo, *Erax pulchripes* Bromley). Se presenta una clave para esos géneros y un catálogo de las especies neotropicales, además de ilustraciones de las terminalias del macho y de la hembra y las espermatecas de *Eichoichemus*.

PALABRAS CLAVES: América. Neotrópico. Asilidae. *Proctophoroides*. *Eichoichemus*. *Wygodasilus*. Taxonomía. Catálogo.

being prepared by the U.S. Department of Agriculture and U.S. National Museum of Natural History, Washington D.C.

Previous parts in this series were published as follows:

Part I (Key to subfamilies, subfamily Leptogastrinae): Gayana, Zool. 52(1-2): 95-114, 1988;

Part II (Dasypogoninae): Gayana, Zool. 52(3-4): 199-260, 1988;

Part III (Trigonimiminae): Bol. Soc. Biol. Concepción, 60: 35-41, 1989;

Part IV (Laphriinae, except Atomosiini): Bolm. Mus. paraense E. Goeldi, Zool. 4(2): 211-255, 1988;

Part V (Stichopogoninae): Bol. Soc. Biol. Concepción, 61: 39-47, 1990;

Part VI (Laphriinae, Astomosiini): Gayana, Zool. 55(1): 53-87, 1991;

Part VII.I (Stenopogoninae, key to tribes):

Gayana, Zool. 55(2): 139-144, 1991.

Part VII.2 (Stenopogoninae, Tribes Acronychini, Bathypogonini and Ceraturgini): Gayana, Zool. 55(3): 247-255, 1991;

Part VII.3 (Stenopogoninae, Tribes Diocriini and Echthodopini): Gayana, Zool. 55(4): 261-266, 1992;

Part VII.4 (Stenopogoninae, Tribe Enigmomorphini): Bol. Soc. Biol. Concepción 62: 27-53, 1992;

Part VII.5 (Stenopogoninae, Tribe Tillobromini): Rev. chil. Ent. 19: 17-27, 1992;

Part VII.6 (Stenopogoninae, Tribes Phellini, Plesiommatini, Stenopogonini and Willistonini): Gayana, Zool. 57(2): 309-321, 1994;

Part VII.7 (Stenopogoninae, Tribe Cyrtopogonini): Bol. Soc. Biol. Concepción 62: 55-81, 1992;

Part VIII (Laphystiinae): Arquivos de Zoologia, São Paulo.

Part IX.1 (Asilinae, key to generic group): Arquivos de Zoologia, São Paulo.

Part IX.2 (Asilinae, *Efferia*-group): Arquivos de Zoologia, São Paulo.

MATERIAL AND METHODS

The material used in this series belongs mainly to the Museu de Zoologia da Universidade de São Paulo, Brazil, and to the Departamento de Zoologia, Universidad de Concepción, Chile.

The two species included in the new genus *Proctophoroides* and the one included in the new genus *Wygodasilus*, are only known from the types. No figures are presented of these three species.

The methodology employed in the dissection and preservation of the male terminalia, female spermathecae and other morphological parts is the same employed by Artigas (1971).

LIST OF ABBREVIATIONS:

AMNH: American Museum of Natural History, New York

BMNH: British Museum (Natural History), London

FAUCV: Facultad de Agronomía, Universidad Central de Venezuela

HT: Holotype

MNHNP: Muséum National d'Histoire Naturelle, Paris

OXF: Hope Department of Entomology, Oxford University, Oxford.

ST: Sintype

WIEN: Naturhistorisches Museum, Vienna

RESULTS

EICHOICHEMUS-GROUP

KEY TO AMERICAN GENERA:

1. Only two submarginal cells in the wing, i.e., vein R₄, near its junction with R₅, only with a stump vein that ends in cell r₂₊₃. Claws obtuse (Bolivia).....*Wygodasilus*, gen. n.

Three submarginal cells present in the wing, i.e., vein R₄ with a complete extra vein that unites it with vein R₂₊₃. Claws acute or obtuse2

2(1) Claws obtuse. Male Costa no dilated (South America, but not in Chile).....*Eichoichemus* Bigot, 1857

Claws acute. Male Costa dilated (Brazil: Mato Grosso, Minas Gerais, São Paulo).....*Proctophoroides*, gen. n.

Genus *Eichoichemus* Bigot (Figs. 1-8)

Eichoichemus Bigot, 1857: 543 (in key). Type-species, *Erax flavianalis* Macquart (orig. des.).

Proctophorus Schiner, 1866: 666 (key), 674 (diagnosis), 712 (list of species). Type-species, *Asilus pyrrophygus* Wiedemann (orig. des.).

LIST OF SPECIES:

connexus (Wiedemann), 1828: 497 (*Asilus*). Type-locality: Uruguay, Montevideo. ST: WIEN.

eraxoides (Curran), 1935: 10 (*Promachina*). Type-locality: Brazil, Mato Grosso, Chapada dos Guimarães. HT: AMNH. *n.comb.*

flavianalis (Macquart), 1848: 186 (1848: 26), pl. 2, figs. 12-12a (not 13 as in text, p. 186; see 'Explanation des figures', p. 230) (*Erax*). Type-locality: Brazil, Minas Gerais. HT: OXF. (= ?*connexus* (Wiedemann)).

gavius (Walker), 1851: 151 (*Asilus*). Type-locality: 'Brazil'. HT: BMNH (?synonym of *pyrrhomystax* (Wiedemann); the type is a female and therefore this species cannot be correctly identified).

kalettai Ayala, 1978: 34, figs. 4-7. Type-locality: Brazil, Santa Catarina, Nova Teutonia. HT: FAUCV. (The male terminalia drawing is so bad that it is impossible to identify correctly this species).

lizbethae Ayala, 1978: 32, figs. 1-3. Type-locality: Venezuela, D.F., Depto. Vargas. HT: FAUCV. (Apparently very close to *connexus* (Wiedemann), but the very poor illustration of the male genitalia, as in the above case, renders impossible the identification of this species).

lycorius (Walker), 1851: 143 (*Asilus*). Type-locality: 'South America'. HT: BMNH. (As occurs with *gavius* (Walker), this species may be a synonym of *pyrrhomystax* (Wiedemann), but as the type is a female, we cannot be sure of this synonymy).

melaleucus (Wiedemann), 1828: 498 (*Asilus*). Type-locality: 'Brazil'. HT: WIEN.

neowillistoni (Bromley), 1933: 15 (*Erax*; nom. nov. for *willistoni* Bromley). Type-locality: Brazil, Mato Grosso, Chapada dos Guimarães.

willistoni Bromley, 1928: 3 (*Erax*; preocc. Hine, 1919). Type-locality: Brazil, Mato Grosso, Chapada dos Guimarães. HT: AMNH.

propinquus (Bromley), 1928: 5 (*Erax*). Type-locality: Brazil, Mato Grosso, Chapada dos Guimarães. HT: AMNH. *n. comb.*

pumilus (Macquart), 1850: 389 (1850: 85), pl. 8, fig. 9 (*Erax*). Type-locality: 'South America'. HT: MNHNP (tip of abdomen missing; the poor drawing of the male genitalia makes it difficult to identify this species with certainty).

pyrrhomystax (Wiedemann), 1828: 497 (*Asilus*). Type-locality: 'Brazil'. ST: WIEN.

Genus *Proctophoroides*, gen. n.

Very similar to *Eichoichemus* Bigot, differing by the acute claws and by having the male wing with a dilated Costa.

Type-species, *Erax hyalipennis* Macquart.

LIST OF SPECIES:

hyalipennis (Macquart), 1838: 114 (1839: 230) (*Erax*). Type-locality: Brazil, western Minas Gerais. HT: MNHNP. *n. comb.*

latiforceps (Bromley), 1928: 3 (*Erax*). Type-locality: Brazil, Mato Grosso, Chapada do Guimarães. HT: AMNH. *n. comb.*

As far as we know, both these species are only known from the types.

The name of the genus refers to the genus *Proctophorus* Schiner, junior synonym of its close genus *Eichoichemus* Bigot.

Genus *Wygodasilus*, gen. n.

Close to *Eichoichemus* Bigot, differing in the possession of only two submarginal cells on the wing. It differs from *Proctophoroides*, gen. n., by that same character and by having obtuse claws.

Type-species, *Erax pulchripes* Bromley.

As in the above case, to our knowledge this genus and species are only known from the type in the AMNH.

The generic name represents a homage to the late Dr. Pedro Wigodzinsky.

SPECIES:

pulchripes (Bromley), 1928: 4 (*Erax*). Type-locality: Bolivia, Piedra Blanca (4 mi. w. of Corumbá, Mato Grosso do Sul, Brazil). HT: AMNH. *n. comb.*

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INDEX

(Synonyms in bold and italic)

connexus (Wiedemann), 1828 (*Asilus*), *Eichoichemus*, p. 98, 99

Eichoichemus Bigot, 1857, pp. 98, 99, 101, 102
eraxoides (Curran), 1935 (*Promachina*), *Eichoichemus*, p. 98

flavianalis (Macquart), 1848 (*Erax*), *Eichoichemus*, p. 98, 99

gavius (Walker), 1851 (*Asilus*), *Eichoichemus*, p. 99

hyalipennis (Macquart), 1838 (*Erax*), *Proctophoroides*, p. 99

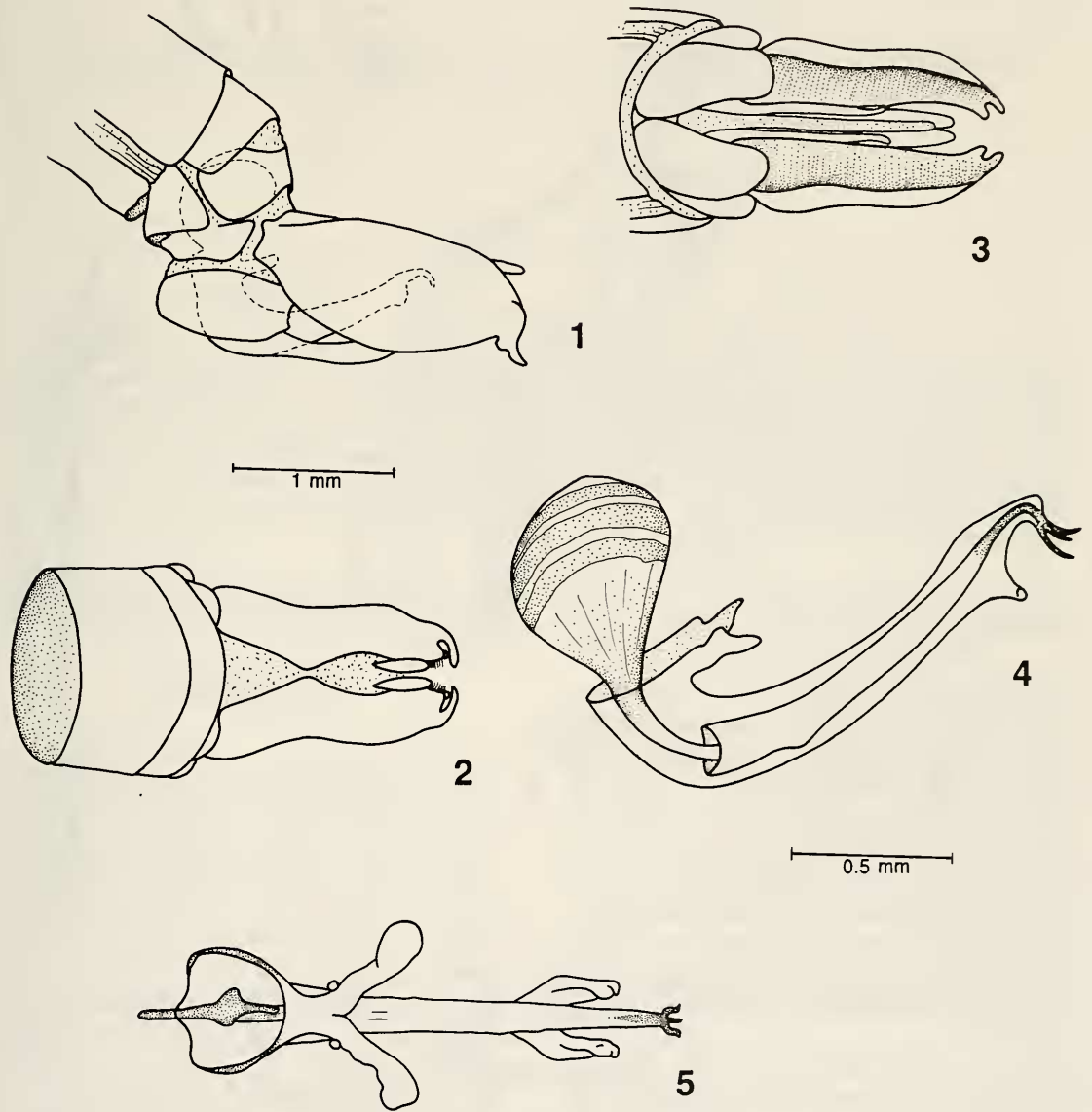
kalettai Ayala, 1978, *Eichoichemus*, p. 99

latiforceps (Bromley), 1928 (*Erax*), *Proctophoroides*, p. 99
lizbethae Ayala, 1978, *Eichoichemus*, p. 99
lycorius (Walker), 1851 (*Asilus*), *Eichoichemus*, p. 99

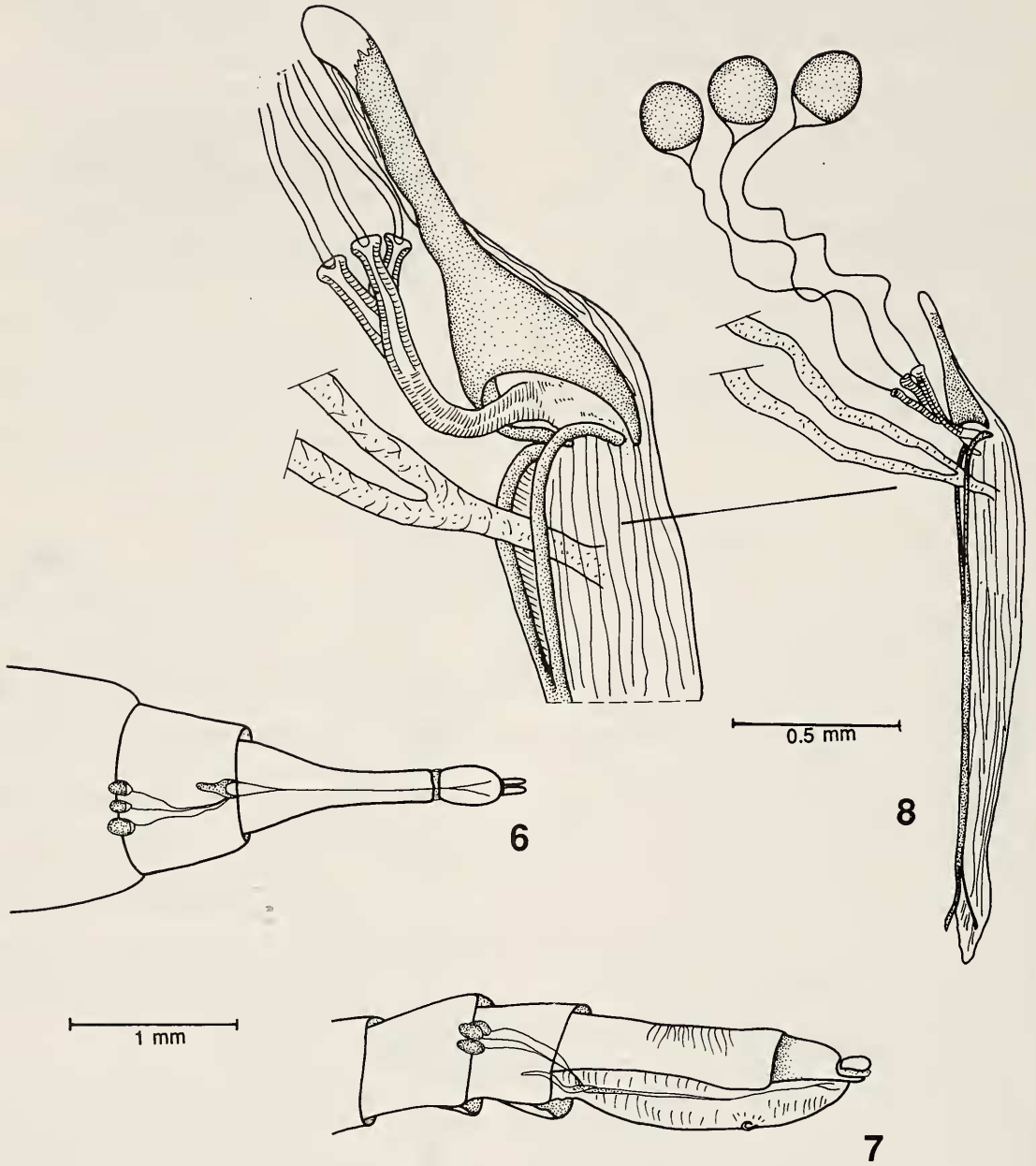
melaleucus (Wiedemann), 1828 (*Asilus*), *Eichoichemus*, p. 99

neowillistoni (Bromley), 1933 (*Erax*), *Eichoichemus*, pp. 99, 101, 102, figs. 1-8
Proctophoroides, gen. n. pp. 98, 99

Proctophorus Schiner, 1866, pp. 98, 99
propinquus (Bromley), 1928 (*Erax*), *Eichoichemus*, p. 99
pulchripes (Bromley), 1928 (*Erax*), *Wygodasilus*, p. 99
pumilus (Macquart), 1850 (*Erax*), *Eichoichemus*, p. 99
pyrrhomystax (Wiedemann), 1828 (*Asilus*), *Eichoichemus*, p. 99
willistoni Bromley, 1928 (*Erax*), p. 99
Wygodasilus, gen. n. pp. 98, 99



Figs. 1-5: *Eichoichemus neowillistoni* (Bromley). 1-3: male terminalia in lateral, dorsal and ventral views; 4-5: aedeagus in lateral and dorsal views.



FIGS. 6-8: *Eichoichemus newillistoni* (Bromley). 6-7: apex of female abdomen in dorsal and lateral view, showing situation of the spermathecae; 8: spermathecae.